Factsheet

Growing the economy while reducing pollution: The economic impacts of climate policy

September 2015

Key points

+ Australia can achieve significant pollution reduction with ongoing economic growth, according to all credible economic analyses to date. This includes recent modelling undertaken for the government on possible post-2020 pollution targets.
+ Delay in establishing a credible and stable policy, however, increases potential economic costs and could lead to the stranding of some assets in high emission sectors (for example, write-downs in the value of coal resources).
+ Current analysis also does not include the rising costs associated with *not* reducing emissions.

Growing the economy while reducing emissions

Australia has a long history of using economic modelling to assess the impacts of efforts to reduce emissions. The central conclusion of all of this analysis is that significant emissions reductions by Australia can be achieved with ongoing economic growth.

The headline conclusion of the government's economic modelling for its intended post-2020 pollution reduction targets was: "*The Australian economy is expected to grow strongly to 2030 regardless of whether Australia adopts a post-2020 target.*"[1]

Figure 1 shows projections of economic growth and emission reductions under various scenarios calculated since 2006.

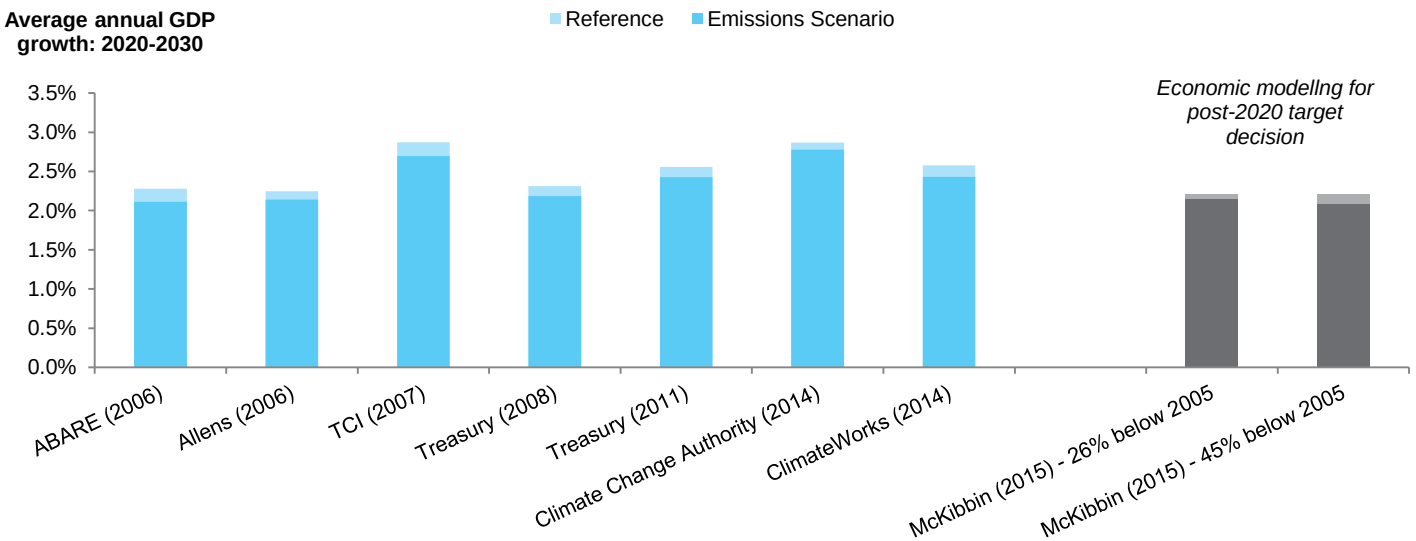
Each of these assumes varying levels of international action, different assumptions around technology costs, and varying approaches to the use in international credits in achieving national targets.

An important caveat is that these modelling exercises assume that the government will set clear, long-term investment signals. Delay in credible and stable policy will increase the risk of high economic costs, and disruptive impacts on high emission sectors through the stranding of emission intensive assets. Recent modelling for the government, for example, showed that impact of policy uncertainty on Australia's real GDP could be around three times larger than the impact of international action to reduce emissions.[2] This occurs because higher perceived risk reduces efficient investment in the energy sector, and results in higher energy prices.

These models also do not capture the systemic risks to the Australian financial system from, for example, a rapid devaluation of fossil fuel assets.[3]

Critically, these exercises exclude benefits of reducing the physical impacts of climate change. See our *Why avoiding 2°C of global warming matters for Australians factsheet* for how climate change impacts Australia.

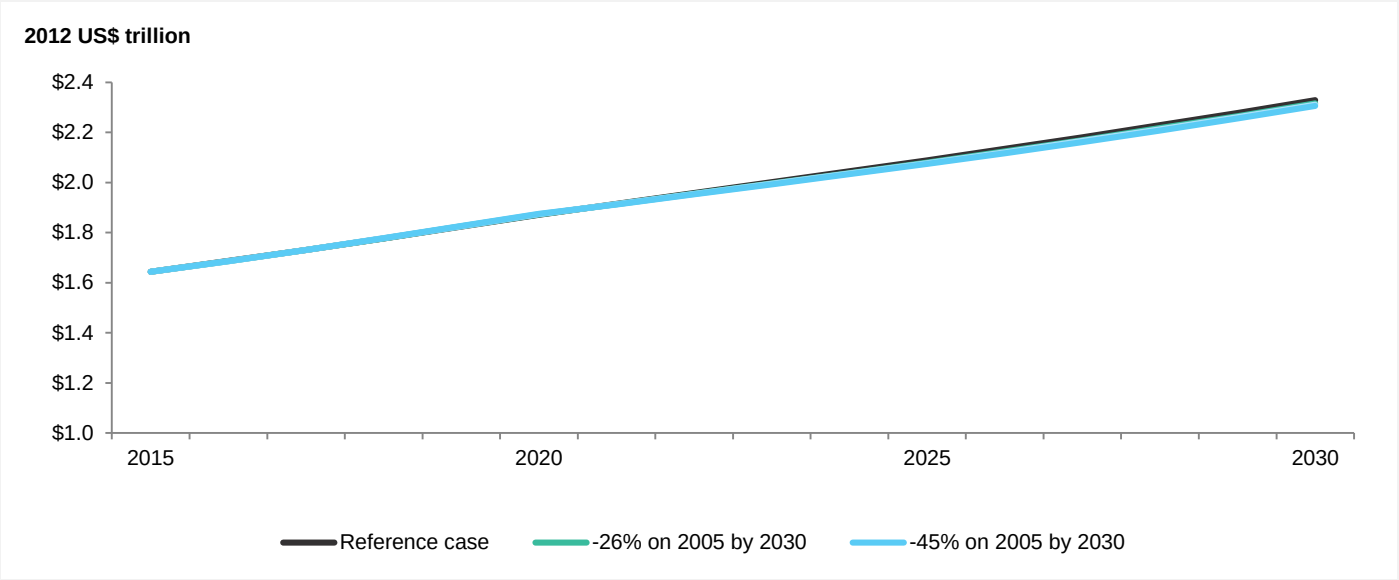
Figure 1. Increasing Australian GDP while reducing emissions. *Australian economic modelling results published since 2006. Light bars show growth without reducing emissions. Dark bars show growth with emissions reductions.*[4-10]



Overview of the government's recent modelling of possible post-2020 emissions targets

The government commissioned Professor Warwick McKibbin to examine the economic impacts on Australia of global action to reduce emissions[2], and the possible economic costs associated with various post-2020 emissions targets.[1] The results of this modelling tells largely the same story as previous economic analysis – that in Australia, strong emissions reductions are possible with strong economic growth (Figure 2).

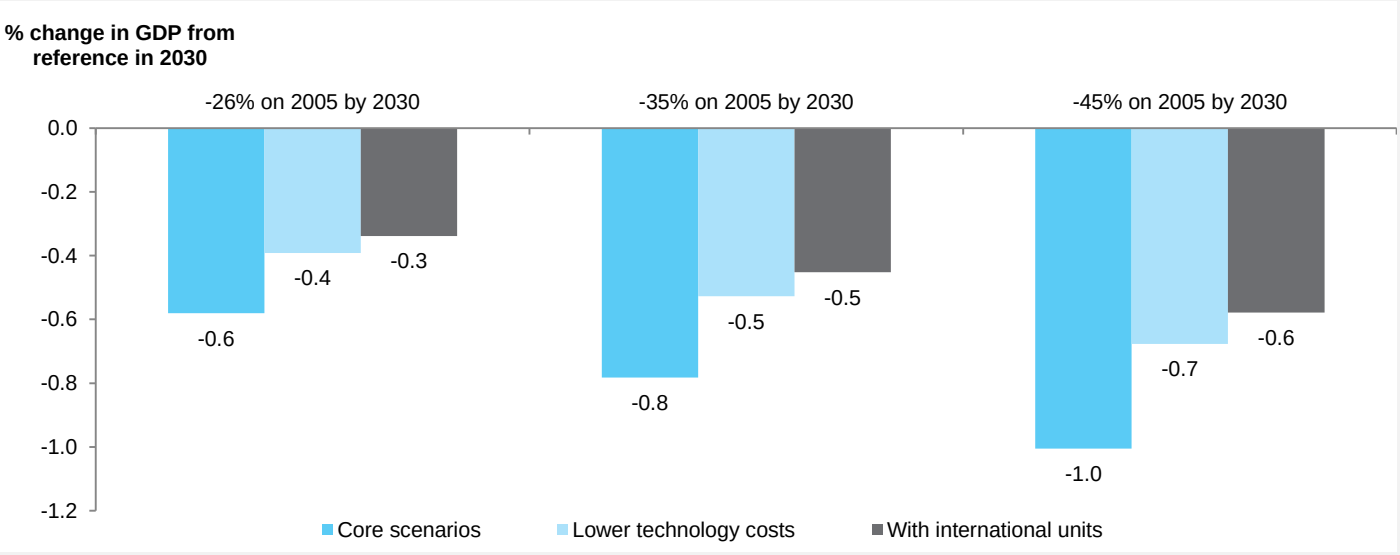
Figure 2. Australian GDP under various post-2020 emissions targets. *Reference case includes the impact on Australia of other countries actions to reduce emissions.*



When considering this modelling however, a number of important points need to be kept in mind. The modelling:

+ **Assumes 2020 emissions target is achieved**: In the modelling, Emissions Reductions Fund and other policies deliver around 110 million tonnes of reductions to 2020 in the energy sector (or 90 per cent of total population reductions required).[2] The Emissions Reductions Fund and safeguard mechanism will do little to reduce emissions in this sector before 2020.
+ **Does not consider action after 2030**: With bipartisan support, the government has agreed that Australia should play its part in limiting warming to less than 2°C. None of the scenarios modelled are consistent with this goal. The modelling does not access the impact of the more rapid and draconian action that would be required after 2030 to achieve this outcome.
+ **The modelling deliberately uses high technology cost assumptions:** High technology costs where used be conservative. Lower technology costs reduce economic impacts substantially (Figure 3). The modelled impact on energy prices is not reported by the government.
+ **The use on international units to meet targets reduces costs substantially.** For example, the cost of reducing emissions by 45 per cent by 2030 with the help of international credits is about the same as a domestic only 26 per cent reduction in emissions. Use of international units reduces the energy price changes that are required to reach a given target.

Figure 3. Impact of various assumptions on post-2020 economic impacts.[1-2]



ENDNOTES

[1] W. McKibbin (2015), Report 2: 2015 economic modelling of Australian action under a new global climate change agreement, McKibbin Software Group, Canberra. This modelling examined a range of emissions reductions targets from -13 per cent to -45 per cent reductions on 2005 levels by 2030. For simplicity, this fact sheet focusses on the results for the government's proposed 2030 target of -26 per cent and the -45 percent scenarios are shown.
[2] W. McKibbin (2015), Report 1: 2015 economic modelling of international action under a new global climate change agreement, McKibbin Software Group, Canberra.
[3] K. Mackenzie (2015), Australia's Financial System and Climate Risk, The Climate Institute, Sydney: http://www.climateinstitute.org.au/verve/_resources/TCI_Australias_Financial_System_and_Climate_Risk_FINAL.pdf
[4] H. Ahammad, A. Matysek, B. Fisher, et al. (2006), *Economic Impact of Climate Change Policy: The Role of Technology and Economic Instruments*, ABARE Research Report 06.7, Canberra.
[5] Allen Consulting Group (2006), *Deep Cuts in Greenhouse Gas Emissions, Economic, Social and Environmental Impacts for Australia*, Allen Consulting Group, Melbourne.
[6] S. Hatfield-Dodds, E. Jackson, P. Adams, et al. (2007), *Leader, follower or free rider? The economic impacts of different Australian emission targets*, The Climate Institute, Sydney.
[7] Treasury (2008), *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*, Government of Australia, Canberra.
[8] Treasury (2011), *Strong growth low pollution: modelling a carbon price*, Government of Australia, Canberra.
[9] Climate Change Authority (2014), *Targets and Progress Review,* Government of Australia, Melbourne.
[10] A. Denis, F. Jotzo, S. Ferraro, et al. (2014), *Pathways to deep decarbonisation in 2050, How Australia can prosper in a low carbon world*, ClimateWorks, Melbourne.